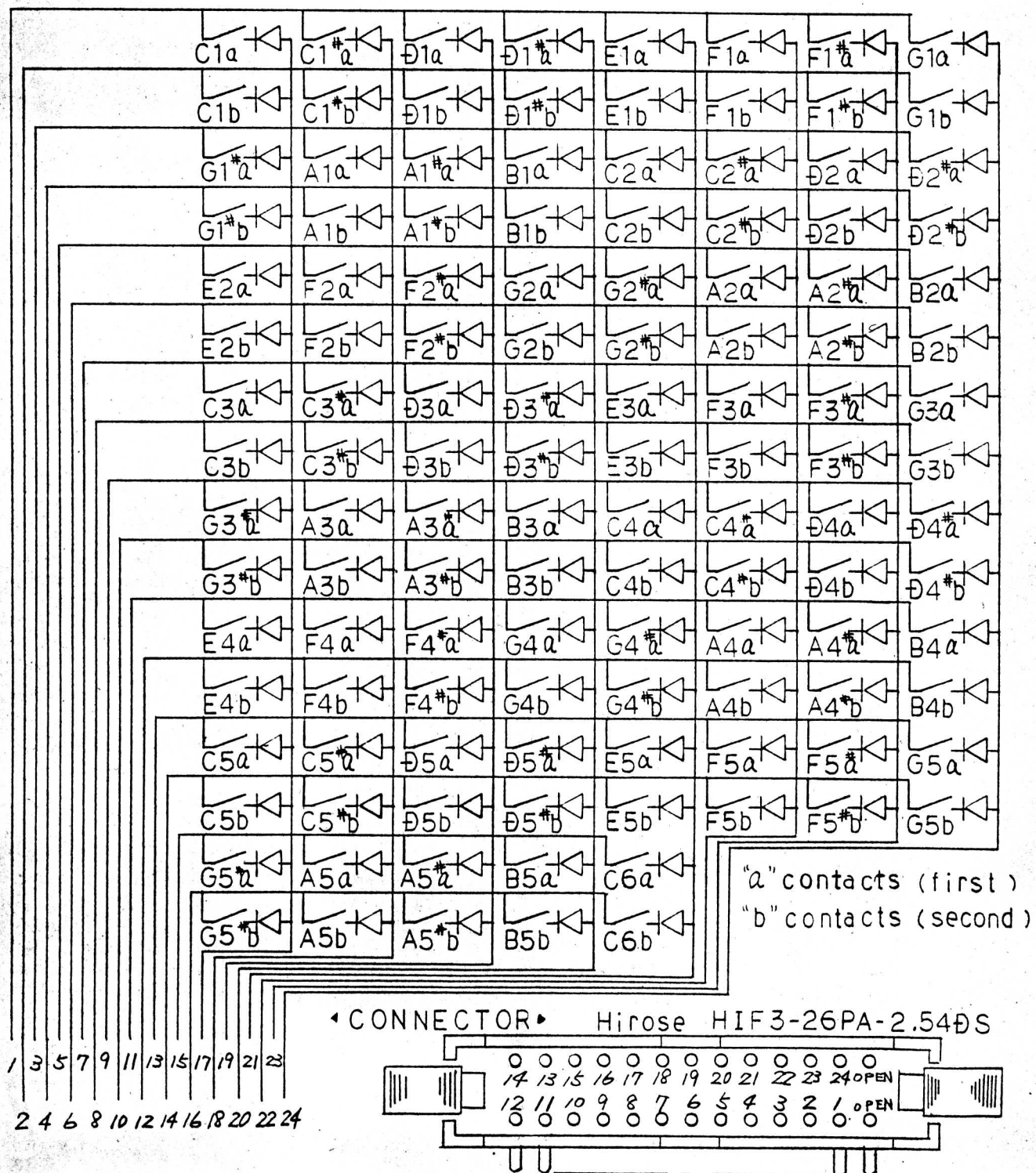


Commercial Tolerance	Sym.	Date	Revision	Signed	Checked
		..			
		..			
		..			



Sym.	Item or Code No.	Material & Size	qt.	Process	Remark
Estn. Date	Jun 25 '85	Control	Promul Date	A. L. E.	
Enfo. Date	Jun 25 '85	Jun 25 '85			
Scale	Designed	Drawn	Traced	Checked	Promul
f	K. Chono	K. Chono			
	Jun 5 '85	Jun 5 '85			
Name	KEYBOARD / SWITCH				
No.	151-SK-6113-2				

CLASSIFICATION		NO. 151-SK-3005	
SPECIFICATIONS (QUALITY)		PAGE 1 OF 3	
SUBJECT		DATE JUL .19, 1984	
KEYBOARD SWITCHES (ESK- 30 TYPE (V))			
1. SCOPE: This specifications covers ESK-30TYPE (V) keyboard switches, which primarily intended to use in electronic organ or other electronic keyed instruments. 2. RATING: Voltage: 20V max. Current: 5mA max. 3. STANDARD TEST CONDITIONS: Temperature 20°C Relative Humidity 65% 4. MECHANICAL SPECIFICATIONS: 4-1. Material and Finish: 4-1-1. Frame: Steel, black painted. or zinc plated. 4-1-2. Key: Moulded A.S. resin. 4-1-3. Contacts: Movable side: Silicone Rubber(Included carbon) Fixed side: Printed Wiring Board, Carbon Print. 4-1-4. Spring: Steelwire, Zinc Plated. 4-2. Stroke: 4-2-1. Full stroke White Key: 9.0±1mm Black Key: 6.2±1mm 4-2-2. Operating stroke White Key: NO1(54) NO2 7.5 ±1.5 Switch on/dred 0.5min Black Key: NO1(26) NO2 5.2 ±1.2 4-3. Operating Force: 55±10 g (at 1mm key travel from initial position)			
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. ELECTRONIC COMPONENT DEPARTMENT, OSAKA, JAPAN		APPROVAL <i>[Signature]</i>	CHECK <i>[Signature]</i>
		DESIGN <i>[Signature]</i>	

CLASSIFICATION		NO.	
SPECIFICATIONS (QUALITY)		151 - SK - 3005	
SUBJECT		PAGE	OF
KEYBOARD SWITCHES (ESK- 30 TYPE(V))		2	3
		DATE	
		JUL	.19., 1984

4-4. Key Strength:
10 kg (by static load)

5. ELECTRICAL SPECIFICATIONS:

5-1. Contact Resistance:
Normal open contact: 300 Ω max.

5-2. Dielectric Strength:
To withstand 150V A.C. for 1 minute.

5-3. Insulation Resistance:
100M Ω min. at 100V D.C.

6. HUMIDITY TEST:
Switches shall be subjected to 90 to 95% R.H.,
55°C $\pm$ 2°C for 168 hours. Excess moisture shall
be removed and 30 minutes of air drying time
permitted prior to subsequent tests.

6-1. Dielectric Strength:
To withstand 100V A.C. for 1 minute.

6-2. Insulation Resistance:
10M Ω min. at 100V D.C.

7. LIFE TEST:
After 1,000,000 operations at the rate of 144
operations per minute by Standard Life Test Machine.

7-1. Contact Resistance:
Normal open contact: 300 Ω max.

7-2. Variation of Operating Force:
To be within 30% of initial value.

7-3. Variation of Stroke:

7-3-1. Full stroke:
White Key: 9 $\pm$ 2
1.5 mm
Black Key: 6.2 $\pm$ 1.5
-1 mm

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CLASSIFICATION		NO. 151 - SK - 3005	
SPECIFICATIONS (QUALITY)		PAGE 3 OF 3	
SUBJECT		DATE JUL .19, 1984	
KEYBOARD SWITCHS (ESK- 30 TYPE(V))			
7-3-2. Operating stroke: White Key: NO1 (5.4) NO2 $7.5 \pm_{1.5}^2$ Switch on area 0.5min Black Key: NO1 (2.6) NO2 $5.2 \pm_{1.5}^2$			
8. HEAT TEST: Switches shall be subjected to $60^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 168 hours and removed into room temperature for 30 minutes and then 1 hour time should be permitted prior to subsequent tests.			
8-1, Insulation Resistance: 10MΩ min. at 100V D.C.			
8-2, Variation of Operating Stroke: White Key: NO1 (5.4) NO2 $7.5 \pm_{1.5}^2$ Switch on area 0.5min Black Key: NO1 (2.6) NO2 $5.2 \pm_{1.5}^2$			
9. MARKING: Switches shall be legibly marked with manufacturer's mark, type number and date code on the designated part of frame.			
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ELECTRONIC COMPONENT DEPARTMENT, OSAKA, JAPAN		<i>[Signature]</i>	<i>[Signature]</i>
		DESIGN	<i>[Signature]</i>